MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Mail Stop 2321
Gaithersburg, Maryland 20899

SRM Number: 188
MSDS Number: 188
SRM Name: Potassium Hydrogen Tartrate (pH Standard)
Date of Issue: 9 December 2003

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SECTION I. MATERIAL IDENTIFICATION

Material Name: Potassium Hydrogen Tartrate (pH Standard)

Description: SRM 188 is a high purity material; however, it should not be considered entirely free from impurities such as traces of free acid or alkali, occluded water, chlorides, sulfur compounds, and heavy metals.

Other Designations: Potassium Hydrogen Tartrate (potassium tartrate; tartaric acid, monopotassium salt; cream of tartar; cremor tartari; monopotassium tartrate; crude potassium bitartrate; potassium hydrotartrate; potassium bitartrate)

Name	Chemical Formula	CAS Registry Number
Potassium Hydrogen Tartrate	$KHC_4H_4O_6$	868-14-4

DOT Classification: Not regulated

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Component	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Potassium Hydrogen Tartrate	100	No occupational exposure limits established
		Rat, Oral LD_{LO}: 22 gm/kg

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Potassium Hydrogen Tartrate
Appearance and Odor: colorless to white powder; no odor
Relative Molecular Mass: 188.18
Specific Gravity (water=1): 1.954 to 1.956
Vapor Pressure : not applicable
Water Solubility (@ 15 °C): 0.42 %
Solvent Solubility: soluble in dilute mineral acids, alkali solutions, borax solutions; slightly soluble in alcohol

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable **Method Used:** Not Applicable **Autoignition Temperature:** Not Applicable

Flammability Limits in Air (Volume %): **UPPER:** Not Applicable
LOWER: Not Applicable

Unusual Fire and Explosion Hazards: This material is a slight fire hazard when exposed to heat or flame. Dust/air mixtures may ignite or explode. Potassium hydrogen tartrate in contact with strong oxidizers, can ignite below 400 °C, with decomposition products of carbon and potassium oxides.

Extinguishing Media: Use extinguishing media that is appropriate to the surrounding fire: regular dry chemical, carbon dioxide, water, or regular foam.

SECTION V. REACTIVITY DATA

Stability: **X** **Stable** _____ **Unstable**

Conditions to Avoid: Avoid heat, sparks, flames, and other sources of ignition; avoid contact with incompatible materials.

Incompatibility (Materials to Avoid): Potassium hydrogen tartrate is incompatible with bases and strong oxidizing materials.

See Section IV: "Fire and Explosion Hazard Data".

Hazardous Decomposition or Byproducts: Thermal decomposition of potassium hydrogen tartrate produces carbon and potassium oxides.

Hazardous Polymerization _____ **Will Occur** **X** **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: **X** **Inhalation** **X** **Skin** **X** **Ingestion**

Health Hazards (Acute and Chronic): Not Applicable

Medical Conditions Generally Aggravated by Exposure: No data available

Listed as a Carcinogen/Potential Carcinogen:

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens		X
In the International Agency for Research on Cancer (IARC) Monographs		X
By the Occupational Safety and Health Administration (OSHA)		X

EMERGENCY AND FIRST AID PROCEDURES:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Obtain medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance immediately.

Inhalation: If adverse effects occur, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration by qualified personnel. Obtain medical assistance immediately.

Ingestion: If ingested, wash out mouth with water. Obtain medical assistance immediately.

TARGET ORGAN(S) OF ATTACK: None reported

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material Is Released: Ventilate area of spill. Wear appropriate personal protective equipment. Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary personnel away. Isolate hazard area and deny entry.

Waste Disposal: Follow all federal, state, and local laws governing disposal.

Handling and Storage: Store in a cool, dry place. Store in a well-ventilated area. Keep separated from incompatible substances. Wear splash resistant safety goggles. Wear chemical resistant clothing and gloves. An eye wash station and washing facilities should be readily available near handling and use areas.

> **NOTE:** Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources: MDL Information Systems, Inc., *Potassium Acid Tartrate*, 19 March 2003